

This Booklet is the Property of

“The Making of a Newspaper”

—By HENRY EDWARD WARNER



A DESCRIPTION OF A
TRIP THROUGH THE
BALTIMORE SUN
BUILDING

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The Reason for This Booklet

THIS booklet is a description of the making of a newspaper as illustrated in the publication of *The Sun*, *The Evening Sun* and *The Sunday Sun*. It is published for the information of all interested, but especially in connection with visits to The Sun Building by students and teachers of public schools, high schools and colleges of Baltimore, which began systematically in November, 1922.

The invitation to the schools and colleges grew out of an increasing vocational interest among students of all classes. To know how a thing is done is one thing; to see it actually done visualizes the story and fixes the education. Students came, saw a newspaper written, set into type, the type impressed in matrices, plates cast and fastened to the huge cylindrical presses, the presses leaping into life at the touch of an electric button, papers flying into the mailing room and being dispatched with feverish speed along the many avenues of distribution.

They went away no longer thinking of a newspaper as a mere printed sheet with its value fixed in

pennies, but as an institution with a power for good or evil, and with a corresponding responsibility to be heeded watchfully. They told others. Before long organizations other than schools were heard from, and "*Seeing the Sun*" has now become an established part of the day's work.

At the date of this revision the story has been told in 18 months to about 14,000 visitors, including teachers and students of high schools and colleges in assembly.

In this booklet an attempt has been made, in text and illustration, to simplify description so that all the processes may be understood by the average reader. It is, in fact, a memoranda record of the trip through the building, for those who have visited. For others, it is offered with the hope that it will prove an interesting description of an important part of modern life.

This second revised edition contains more detail, a chapter on the monotype machine and added illustrations, considered advisable in view of a large demand for this information.

Appointments to visit The Sun Building may be made by organizations or groups of individuals, by addressing

THE A. S. ABELL COMPANY,
"*Seeing The Sun*" Department,
Sun Square, Baltimore.

Before We Begin

THE little journey described in this booklet is through a modern newspaper plant, with all the developments of the industry in full blast.

It will be well, before starting, to understand that everything in the plant is comparatively new. For instance, modern presses were not even thought of as practical until about 1875. The linotype machine was not invented until 1885, by Ottmar Mergenthaler of Baltimore. The Autoplate, without which modern newspapers would be impossible, did not come into its earliest use until 1890. Before these dates, newspapers were set clumsily by hand, printed direct from the original type, and turned out a sheet at a time on flat-bed presses.

It is also well to know something of the beginnings of journalism. In the latter part of the sixteenth century, Germany saw several periodicals born and buried in rapid succession. Shortly afterward, France and England followed suit with about the same results. Then, eighty-two years later than England and ninety-nine years after France, the English Colonies in America joined.

Benjamin Harris, one of the earliest victims of

official opposition to a free press, had an idea that there were too many persons walking around Boston knocking the town, the country, and everything generally. So on September 25th, 1690, he printed the first and only edition of "Public Occurrences," which was to have been a weekly paper devoted chiefly to the task of printing the names of all the town liars, and pillorying them in public execration. He invited anyone to furnish names of known liars, and they were saved from exposure only by his paper's immediate demise, by order of the Governor, who saw terrible possibilities in the publication of inconvenient truths. It was a funeral that all the liars attended with appreciation.

On April 24th, 1704, John Campbell, also in Boston, started "The News-Letter," and for fifteen years was without competition in America. Then the Boston Gazette started, Philadelphia and New York followed with newspapers, and by 1740 there were eleven newspapers in the colonies and newspaper enterprise had started a publishers' association.

That was the beginning. No living man can predict the full development of the newspaper. But for that matter, no living man can predict the full development of anything. What we know today is that the power of the press is a real thing, a compelling thing and a force that could be exceedingly vicious were it not for the fact that to survive at all, a newspaper must be essentially "on the level."

S T A T I O N "A"

The Business Office

We are standing in the lobby of The Sun Building. The revolving doors that followed us through, revolve ceaselessly. The entrance to The Sun Building is never closed, day or night.

Until 1904, the year of the great Baltimore fire, *The Sun* was published from the Iron Building at Baltimore and South streets, which was the first iron building in the world, and was constructed for *The Sun* in 1851. The new building stands at the exact geographical center of the city, and is an architectural monument, intended originally to house one newspaper of moderate proportions; until 1924, compelled to take care of a combination of Morning, Evening and Sunday newspapers whose demands stretched its walls so that the adjoining building was purchased, and at this writing is being gradually occupied by Sun equipment.

In this main floor business office, at the desks of the advertising force and behind the counter, more advertising copy is handled every day (certified figures at the close of 1923) than is handled by any



A PORTION OF THE SUN LOBBY

other newspaper in the world. Here, and in the Classified Advertising Department, upstairs, are handled more columns of "want-ads," as they are familiarly known, than are handled by any other newspaper in the world save a scant half dozen.

In the center of the space behind the counter there is a small cabinet—so small you can hardly see it from in front. It is an indexed invention for holding answers to classified advertisements, and about 3,000 answers a day go "through the works."

The large brass equipment over by the rail is a pneumatic tube, through which advertising "copy" is shot upstairs to the composing room.

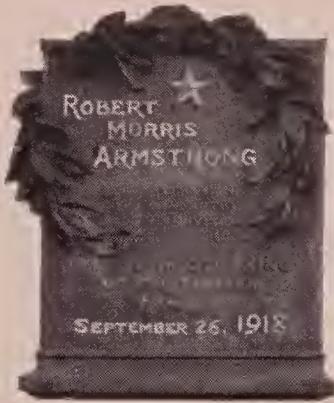
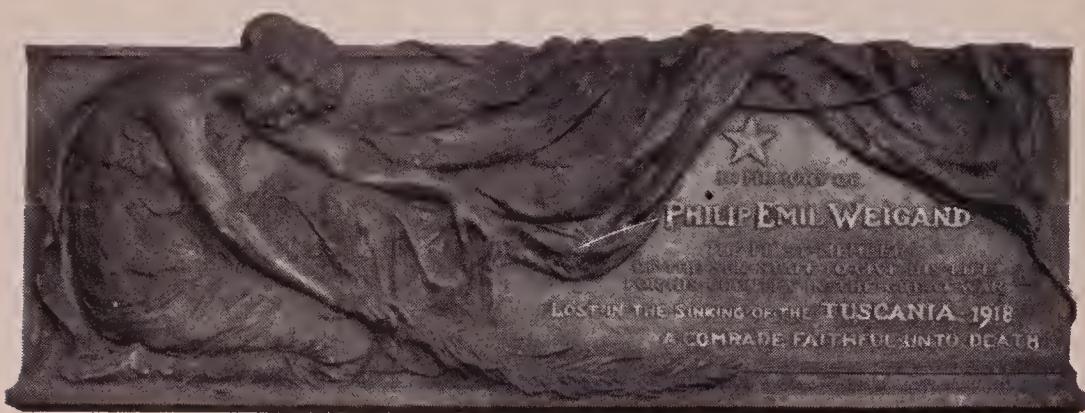


SHOWING BUSINESS OFFICE

It is not necessary to stop long here. A business office is a business office. But if you will step over to the right-hand wall, at the foot of the stairs, we will show you something of which *The Sun* and all *Sun* men and women are proud. They are three bronze tablets by Hans Schuler, tributes to *Sun* men who gave their lives to their country in the World War.

The central tablet was erected by The Sun Route Owners' Association in memory of Philip Emil Weigand, a *Sun* carrier who volunteered and who went down with the *Tuscania*. On its right, a tablet to George Seriah Katz, Classified Advertising Manager,

who died in service at Fort McHenry, October 8th, 1918. And on the left, a third tablet to Robert Morris Armstrong, a *Sun* reporter who was killed in action at Montfaucon, September 26th, 1918.



*Memorials to
Three Sun Men
who made
the Supreme Sacrifice
in the
Great World War*



Leaving the business office, we will follow "copy" from its beginning through all the processes of publication, until the newspaper is out of the building and in circulation. "Copy" is anything written, drawn or photographed, which is prepared for publication. It is the desire of the writer to explain the

making of a newspaper in language free from technicalities—to show as simply as possible the various steps in the assembling of text and illustrations, and their mechanical conversion into a complete, orderly, printed chronicle of a day's events.

S T A T I O N “B”

The Editorial Room

NEVER mind the little elevator. The steps are handier. A brisk winding trip up four flights, and here we are in a long room full of desks and typewriters. The working space is enclosed by a low railing, leaving an aisle which leads to the north end and into a hallway which is flanked by editorial offices. At the end of the hall, the executive secretaries; to the right, the office of the president, and to the left, the board room for the directors. But we are not especially concerned with how a newspaper is financed and managed. We are trying to find out how it is made; so we pass up the President and the Board and go back into the big room where typewriters are clicking.

We glance into the editorial office. Editors and

editorial writers and executives may perhaps be seen in consultation or busily grinding out no end of fallible opinion on matters of moot. We are in the very presence of Editorial Opinion, and it does not stagger nor confound us. On the contrary, the editors seem to be quite human persons, doing a day's work very much like anyone else, and with no greater certainty that they will not have to do it all over again when the whole truth about The Issue is made clear. Editorial opinion, you understand, is an expression of thought that seeks to be right, and is ever conscious of the probability that it may prove wholly wrong. Which possibly accounts for the becoming meekness with which the Editor sacrifices himself in the public weal.

We see, also, in passing, some of the big special writers of the staff, and we fail to discern the slightest mark of genius. It is something of interest to know that the foremost authority on American politics over yonder is actually writing something on the spot for immediate publication; that the boyish-looking chap with children flocking around his desk is the Jungle Editor, humorist and widely known war correspondent; that the somewhat fat and smooth-faced person leaning against a desk in conversation with an inconsequential looking reporter is the internationally known essayist, cynic and critic who is ranked high among modern writers; that yonder middle-aged and studious ornament is the same man whose

name appears over leading articles. When the guide mentions their names, the visitors gasp and exclaim: "Is that really So-and-So?"

But, again, we are not so much concerned with special writers and geniuses. Over there at the desk hammering a typewriter is the fellow we're following. He is the Reporter. The Ubiquitous. The Omni-present. The man of whom a noted editor said: "His business is to know where hell is going to break loose next and be there!" To him all doors are open, or are opened, or may be battered down in the interest of his public. He is a district reporter, or a general assignment man, or a court reporter, or what not. Wherever there is a source of news, there the Reporter is; and when the cry of four alarms calls him, he is under the ropes with the fireman and often at points of greatest danger, getting the story for you.

What is News?

Briefly, it is the record of any event that interests readers, and the value of news generally is regulated by the number of readers it interests. Hence, because the *unusual* interests the greatest number, the best news is that which is unusual. A murder is news; a brutal murder is greater news; a murder accomplished unusually (i.e., the famous Guldensuppe murder, the

first of a series, in which the body was cut up and packed in a trunk) is even greater news, because of its degree of unusuality. The death of a citizen is news to his circle; the death of a Mayor is news to the whole city; the death of a Governor or Senator, primarily to his state or district; the death of a President is news to the country and, because of its international influence, to the world at large. The assassination of a President in a peaceful country is proportionally greater news than the assassination of the President of a revolutionary country, because it is unexpected and doesn't happen so often.

As Charles Dana once put it:

"If you see a man up a telegraph pole, that is not news, because men climb up telegraph poles every day; but if you see a telegraph pole climbing up a man, THAT'S NEWS!"

And the best reporter, by the same reasoning, is that reporter who is able to tell a story so unusually, or so simply, as to carry the reader's interest irresistibly along. The reporter who can make his reader feel as though he has been on the scene witnessing the events described, is a reporter indeed; and by the same token he is *rara avis*.

A classic among newspaper men is the story of a dispatch that started coming into the office of a

New York daily, from a field station at the scene of a great railroad wreck. Nobody knew who was sending the story, but it was a masterpiece. Word after word came over the wire, each one more gripping than its preceding mate; sentence after sentence, describing in graphic detail the heart-rending scenes.

"Give it the run of the paper!" ordered the night editor. "It's the best news story ever written!"

Suddenly the message stopped. A minute passed —two minutes—five; and then the night editor said to the operator:

"Tell that damned fool to come on with his stuff!"

The operator clicked his key with the message. Soon there was a slow, measured reply. The operator turned to the editor.

"The damned fool is dead!" he said, simply.

Investigation proved that the man who sent the message was a staff reporter of the paper receiving it, that he had been a victim of the wreck, and that his first thought was of his duty to his public. Sitting in the field by the side of the track with both legs cut off, he began dictating to the operator, and his voice kept steadily ticking off the tragedy, until with his last breath, he signed off feebly and went Home, smiling happily as he fell into the doctor's arms.

That man was a Reporter!

Notice the semi-circular tables at the head and foot of the room. These are copy desks. The head of the desk sits in the center. Across the table are the copy-readers. At a desk in front is the city editor. At another, back to the left, the managing editor. It is the city editor's business to keep the reporters after news, and it is the reporter's business, when he goes after something, to bring it in. From the reporter, the story goes to the copy desk to be read carefully, corrected if necessary, and fitted to space proportionate to its news value. Here, the headlines and sub-headings are written into the copy, and it is then shot by pneumatic tubes to the composing room, whence we shall presently follow it.

News of the world comes into the editorial rooms by direct wire and the operators are tucked away in sound-proof rooms. They get the news of the Associated Press and other press services for *The Sun*.



A Copy Desk at work preparing material for the Composing Room.

papers. Press service is one of journalism's modern necessities. Each organization is composed of all the newspapers subscribing to its support. All the news of any member paper belongs to the association, and all members are entitled to the special news gathered by the association, from all quarters of the Earth. Foreign news is dumped with domestic into the New York offices, and there edited, proportioned to its value in the events of the day, and relayed by wire to all member newspapers. So *The Sun* and *The Evening Sun* get all the news of all the other newspapers, and of all the special agencies, engaged in furnishing information to the central organization. This means, in terms of actual fact, that during every hour of every day, *The Sun**papers* are in touch with the whole world by wires running directly into The Sun Building.

It will interest you to have these facts concerning the Associated Press. At this writing there are in this country a few less than 1300 newspapers that get Associated Press service. This means that there are 1300 contributing editors of the Associated Press, and 80,000 reporters. The organization sends out 75,000 words a day over 93,000 miles of leased telegraph wires, or wires under control of the association; and members pay in about \$6,000,000 a year to gather and broadcast this news.

Features other than news—that is, such things

as fiction stories, features for special positions, such as the Woman's Page, comics, and a certain class of cartoons—are not originated by the individual newspapers in any great number. They are prepared for and circulated by newspaper syndicates that do nothing else. The newspaper in which a given feature appears has the exclusive use of that feature in its territory. Without syndicates, features in such extensive use would be impossible, and the big Sunday newspaper would be equally out of the question, in the form in which you know it. Some newspapers syndicate, or sell to others their best general features, but all newspapers publish more or less strictly local features, which are readily distinguished from the others.

While *The Sunpapers* use some of the best of these syndicated services, exclusive articles of particular interest to Marylanders, by members of *The Sun's* staff of special writers and correspondents, give the papers the individuality and the local flavor so much appreciated by the readers of "Baltimore's Own Newspapers."

The business of the Editorial Rooms, in brief, is to gather, select, edit and prepare for composition, the entire news, editorial and feature contents of the papers, and to send all the copy to the composing room, where it is set in type.

In connection with editorial work, it is obvious

that a large newspaper must have an organized department of information for its own use. Such a department rapidly develops into a service for the public, and with *The Sunpapers* this has happened so completely that The Sun Information Bureau is a general reference center engaging the constant attention of a force of men and women who have become expert at locating, instantly and fully, information on all conceivable subjects.

In the Information Bureau the shelves, drawers, files and pigeonholes are packed with books, clippings, references, cuts, miscellaneous data. Anything in the world one wishes to know can be found there, and if the subject is of later development than the published references, *The Sun's* people know just where to get the last word quickly. In consequence, investigators who formerly went to libraries and difficult places and dug for themselves have adopted the plan of calling up *The Sun* first. This is a most popular short cut with school teachers and advanced pupils, groups of

*A corner in The Sun
Information Bureau—
an indispensable work
of research and
record.*



whom can be found any day in *The Sun's* library, being assisted in their work by the bureau's competent staff. Every mail brings a stack of inquiries on everything from how to sew on a suspender button to the scientific explanation of the Aurora Borealis, and handling all this is a burden; but, to quote Arthur's description of metal armor in Mark Twain's fascinating "King Arthur's Court," "it is a proud burden and a man stands straight in it."

Every day *The Sunpapers* are filed column by column in this department, more than 100,000 index cards a year with from five to ten subjects on each, being added to the cabinets for *The Sun* alone. The department also files all clippings and used half-tone cuts, and keeps on hand everything in the way of information about men and events, which may be needed at any time in connection with news developments. Let anything of importance happen, and at once the Information Bureau gathers all possible data and pictures to cover that event's development. Filed in the bureau are about 50,000 cuts and 75,000 photographs. These are periodically cleaned out, the "dead" subjects being destroyed and new ones taking their places.

Now we will go to the photo-engraving department and see how illustrations are made.

STATION "C"

The Photo-Engraving Room

WITH the development of photo-telegraphy, we shall one day see a picture sent by wire, or radio, from Italy to Baltimore, of an earthquake in action; and we shall see it printed in one of *The Sunpapers*, perhaps, from three to four hours before it happens! Impossible as this may seem, the first prophecy depends upon scientific development of a workable idea; the second is accounted for by the difference in time at the two points. If a prominent man dies and his picture is needed here, it may be printed in Baltimore two or three hours before the hour of his death, and yet be perfectly post-mortem!

The Sunpapers have their own photographers, of course, and their own artists, whose work is repro-

*A corner in the
Engraving Room
showing where *The
Sun's* photographs
and drawings are
made into
metal cuts*



duced in the papers. The photographers use a Graflex camera, capable of snapping a perfect picture in 1/1000 of a second, so that the fastest race horse is frequently caught with all four feet off the ground. Pictures taken late on the same morning are in *The Evening Sun* that afternoon; flash-lights taken at midnight are in *The Sun* before the banqueters in the picture have taken their morning's cat-nap. Not long ago there was a church event in Easton, of which a picture was desired. It could not be obtained for publication the same day by train, boat or automobile, so *The Evening Sun* sent a photographer in its own aeroplane, took the picture at 9 o'clock and printed it in *The Evening Sun* that day.

The work of the artists is done on bristol board with crayon, or traced in pencil and finished in ink, and is then sent to the engraving room the same as photographs.



The Sunpapers' Commercial Art Department, where advertisements are illustrated for the readers of "store news."

Each of *The Sunpapers* has its own staff of camera men and artists for editorial work—that is, to photograph and draw illustrations of the day's news or features. In addition—and a very important addition—there is a large staff of fast and competent artists who do nothing but illustrate advertisements, drawing endlessly at boots, shoes, hats, caps, furniture, suburban developments and every subject that is carried to the possible purchaser through the advertising columns. It is a *Sun* rule that advertising typography must conform to the editorial standard, and that illustrations must be accurate and well drawn. So *The Sunpapers* help the advertisers in their commercial illustrating when necessary.

Cuts (that is, reproductions in metal of illustrations) are made of zinc. Photographs are reproduced in what we call half-tone; drawings are done in lines, without screen—which will be explained presently. Now we're ready to transfer a photograph to metal, so that it can be placed in the form with type and sent through the stereotyping process with the whole page, as described hereafter.

First we provide a photographic plate, as follows: Take an ordinary piece of window glass and cover it with a coating of albumen, which is sticky. In simple terms, albumen is the white of an egg—that's all.

So we cover the glass with the white of an egg, or many eggs—it doesn't matter. The albumen is just

a backing to hold the film together. Then, on top of that we put a coating of collodion, which is a preparation of soluble gun-cotton with ether and alcohol, with certain chemicals varying with different methods. Collodion is the same kind of stuff as a skin-forming preparation that you've used, perhaps, to cover a cut on your hand. It dries on your hand and makes a covering of skin. It does the same thing on the glass. Next, we dip this into nitrate of silver, which makes it sensitive to light, and there is your photographic plate.

Our problem now is to transfer the photograph to this sensitized collodion coating and this is how it is done:

The plate is placed inside the big camera you noticed. The photograph is fixed to a board in front of the lens at the proper distance, according to the size of the desired reproduction. A powerful light shines on the photograph and the camera proceeds to photograph, slowly but surely, just as any other camera photographs, with this exception:

If a photograph were reproduced on metal just as you see it, and then inked and printed, the result would be a solid smear of black ink. It must be broken up into a lot of pieces, or dots, which come out on the metal as small points, of about the consistency of a finger-nail file, to employ a familiar comparison. Each of these dots prints a black point, but

each point is surrounded by the white paper in the background, and the combination of white paper and black dots produces the intermediate grays between white and black that make it possible for you to recognize a likeness.

Now, to break up the photograph, there is placed in the camera, between the subject and the plate, a screen made as follows: Two fine pieces of glass are cut with diagonal lines, 60 to the square inch, and these lines are filled with an opaque substance which will not allow light to go through. Then the two pieces of glass are glued together so that the lines intersect at equal distances. The result is that in the squares between the intersections there are 3600 clear spaces to the square inch. Through these the arc light or artificial sunlight passes, carrying the image of the subject in, as shown, 3600 pieces to the square inch. And these pieces are called dots. The screen is called a 60-line screen, which is about as fine as can be used for ordinary newspaper work.

Next, the plate is developed and put through an intensifying solution of copper and nitrate of silver to give it a body. It is then dried and given a coat of rubber and collodion, so that it can be handled without tearing. It is now stripped from the glass and transferred to another piece of glass, with as many other subjects as the new glass will hold. This glass is called a "flat" and it enables us to make many cuts at one time. A piece of zinc plate is covered with a

printing solution of albumen and bichromate of ammonia. It is placed against the face of the flat with the negatives on it, and these two are fastened in a frame and set up against a powerful arc light, which transfers the images from the collodion negatives to the zinc plate.

Now etchers' ink is rolled over the images on the zinc plate, and on top of the ink dragon's blood, a powder that resists acid, is sprinkled. When the plate is dusted off, this dragon's blood sticks to the ink, and hardens. Dragon's blood is made chiefly from the red resin and bark of the rattan palm of India and the Eastern Archipelago. The zinc plate is then placed in a bath of nitric acid, which eats into zinc. But it eats only into the unprotected zinc, so that the surface of zinc not needed in the picture is eaten away, and the zinc reproduction of the image is left standing up. When ink is rolled over the zinc plate and a proof pulled, only the image will print on the paper, because the rest of the metal has been eaten away and is not high enough to touch. This is what we call etching.

After the zinc has been etched the cuts are sawed or routed apart and defects corrected by hand, and the cut then goes to the Composing Room and is put into the forms just the same as type, for the matrix. In reproducing drawings the process is the same, except that it is not necessary to use the screen.

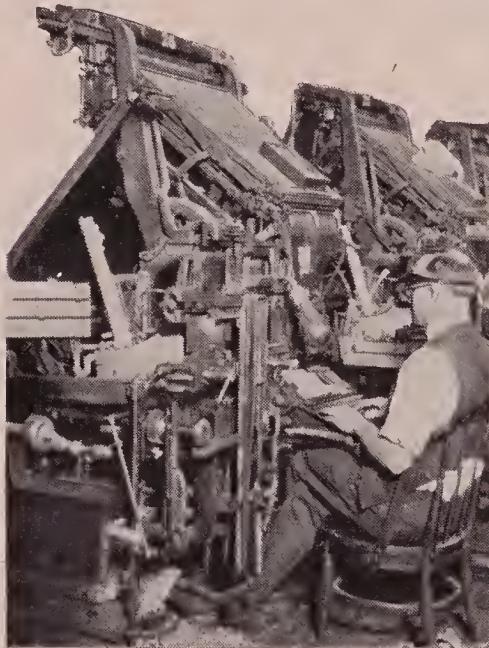
In reproducing half-tones for the Photogravure Section of *The Sunday Sun*, the same general principle applies. The chief difference is that a very fine screen is used, the cuts are made on copper instead of zinc, and the printing must be done with a special ink, on special paper, and very slowly. It would be impossible to print a fine-screen half-tone on ordinary paper and with ordinary ink, at the rate of speed required in the daily publication of a newspaper.

S T A T I O N "D"

The Composing Room

PRACTICALLY the entire third floor is occupied by the composing room. For the purpose of our journey we will go at once to the desk of the copy-chopper, who receives all copy from the editorial room and supervises its distribution to the linotype machines for composition. When copy is received at this desk it is cut up into what the printer calls "takes" from the fact that each compositor in turn takes his piece of the copy to set in type. This system of cutting up copy in "takes" makes it possible to set an entire story in very quick time, and at the moment of closing the "takes" are made so small that many machines set the entire story almost instantaneously.

Each "take" is marked with a slug letter and number as A-1, A-2, A-3, etc. When the compositor has set his copy he returns type and copy to an assembling bank, or desk, which is directly in front of the copy chopper. There, the "takes" are assembled in the order designated by the slug, on narrow trays called galleys. When the entire story and its headlines are on the galley, a proof is taken by inking the type and running a roller over a strip of paper against it. This proof is sent to the proof-readers, who read it back to copy and enter corrections in the margin. It then goes back to the bank, corrections are made, the "take" slugs are pulled out, and the galley is sent down the room to the stone, or table, where the page for which it is intended is being "made up" or put together in the form in which it appears in the newspaper. If

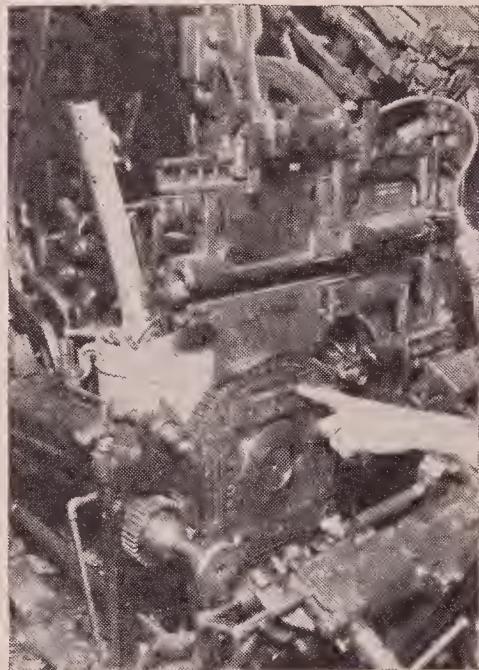


*The Linotype
Machine—one of
the marvels of the
modern newspaper.
Invented by the late
Ottmar Mergenthaler,
a Baltimorean.*

you ever see a story in the paper with errors in it, there was not time to make all the corrections for the edition and it was "railroaded" because of its importance as news. But you will find the corrections all made in the following editions.

Now for the typesetting. In former days, all type was set by hand. Each letter or character was a separate piece of type. These types were kept in a case, and picked out and placed in a metal "stick" or holder set to any desired width. This hand-setting continued until Ottmar Mergenthaler of Baltimore invented the linotype, now in universal use and as indispensable as any other of the modern machinery of newspaper making.

The linotype is just what its name suggests: i.e., a machine that sets a line of type, instead of setting single characters. It does the work of from four to five men. It is operated substantially the same as a typewriter. At the top of the machine there is a large brass magazine fitted with slots which hold small brass



Linotype machine with casting box open, showing how metal shoots out and casts line from matrices.

matrices, or dies. Each of these matrices bears the cut-in form of a letter or character. When the operator touches a key on the board, the corresponding matrix is released from the magazine and falls down into a holder, which he calls an assembler, at his left hand, this holder being the width of the desired column measure. When this holder is filled and spaced out, it forms a complete set of matrices for one full line. It passes down against a casting box, where hot metal takes the impression of the dies. This metal line comes out of the casting box and takes its place with lines of type, in its regular order, until all the copy has been set.

Now watch the little brass matrices carefully, because this is the most human part of the machine.

As soon as the matrices have done their work, a long arm comes down and grabs them. Each matrix has, in a V-shaped end, fourteen sharp teeth, on the principle of a Yale key. The arm takes them all back to the top of the machine and passes them over a grooved bar in front of a revolving spiral shaft which runs at the top of the magazine, from which they originally came. This grooved bar holds the matrices and the shaft carries them across until the notch combination of each matrix releases it and drops it back into its proper slot, when it is ready to fall into line again when the operator needs it. This ingenious distribution of matrices is always a wonderful thing to visitors, and it repays close examination.

Now, we have seen copy written by the reporters and editors, arranged by the copy-readers, set by the linotypes, sent down to the assembling bank and proof-read and corrected. The next step is to put the type in page form, the way you see it in the paper.

As you entered the Composing Room you noticed a long row of metal tables. These are called stones, from the fact that originally stone-topped tables were used for making up pages. On each table there is an iron form, or chase, as it is technically called. This chase is just slightly larger than the actual newspaper page, to allow side-sticks to tighten up the type form when it is all in place. Examine the forms closely, and you will see at the top the "carry line" and folio, and below that the whole page made up exactly as you see it in the paper. It is simply that all the type matter has been put into position by the make-up man, and each form as you see it is a page of the paper.



The "Make-up," showing the assembling of pages prior to matrix making.

STATION "E"

The "Monkey" Room

ALL the description in Station "D" has been of typesetting for the general news and editorial pages, in what is called body type—or the size of type which makes up the body of the paper.

Now we come to a very important section of the composing room, known familiarly as the Monkey Room, where the monotype machines set display advertisements, casting new type every day. In former times, advertisements were of the standing variety; that is, they were allowed to run with few changes for a long time. The result was that type in the form became mashed and broken, dirty and indistinct, and the average newspaper in those days was a very miserable specimen of the printing art. In these days, the newspaper of the first class guards its typographical cleanliness zealously.

You understand, of course, that *The Sunpapers* are not printed from the original type as set by the machines, but from plates made from matrices taken from the forms of type. The original type is melted every time it is used, and returned to be used again.

In setting advertisements by monotype, the first

process is in a small railed section containing what looks like large typewriters and their operators. These machines puncture, or perforate, rolls of record paper exactly as records are perforated for a player piano. Every line is punctured just as it must come, and in the right size and style of type, by these perforating machines. The rolls then go into the little room in the rear—the Monkey Room.

The machines in this room are little foundries. Each one is in fact a complete foundry in itself. The roll of record perforated by the other machine is fastened to the casting machine and passed down over holes through which air blows—again, just the same as on the player piano. This air works two dogs connecting with a type die, or frame, which contains small holes at the end of which is the die of a letter or character. Now, this type die is fixed over a melting pot from which there is a small nozzle which, when required, shoots a jet of composition metal up against the die and instantly casts that



*Perforating rolls
for the
Monotype
foundry.*

one letter in a single type. The newly-cast type leaps out into its place in the growing line of types, and the process is repeated until all the matter is set.

As each line is completed, an automatic line hook reaches out behind the last letter and draws the entire line onto a tray into its proper position. A lifting metal rule raises and lets a column pusher slip in, push it forward and thus clear the space for the next line, and so the intelligent little foundry works on automatically, consuming everything that is fed to it and never wearying.

After the monotype machines have finished, the type goes out into the "ad alley," where all advertisements are handled, and make-up men there put it into the page forms with other matter, as described in the preceding chapter.

The handling of advertising "copy" before it gets to the type-setting stage can be dismissed in a few



*Monotype foundry
machine casting type
from paper rolls.*

words. You know, of course—the fact is so obvious that all must know it—that a newspaper does not derive its revenue from the sale of the paper, but from advertisements. The printed sheet is actually sold at far below the cost of the white paper. The cost of advertising to the buyer of space is regulated on the basis of so much money per thousand of circulation, governed also by local conditions.

The advertising generally comes under the business manager, the subordinate heads being the managers of display advertising, of classified advertising and of national, or out-of-town advertising. Display advertising is everything local except classified; classified is all that goes into classification groups; national advertising relates to space bought by advertisers out of town seeking local patronage, the particular example being the manufacturer of a product sold nationally through agencies in the local field.

*Classified Advertising
Phone Room, where
small advertisements
are handled over wire.*



The advertising salesmen present the newspaper's circulation value to the advertiser and sell space on the basis of the newspaper's volume and character of contact with the possible buyer. They suggest methods of using space to get the best results, working closely with advertising agencies that make a specialty of representing users of newspaper space.

Handling classified advertising includes advising the thousands of small users of space, particularly people who use only a few lines for a short time, and who are unfamiliar with the proper wording of the "direct-appeal" message. In addition to its regular force of salesmen, for the benefit of these small advertisers, *The Sunpapers* maintain a separate telephone room with twenty-eight stations, at which carefully trained young ladies are kept constantly busy receiving advertisements and suggesting the most effective wording.

Thousands of appreciative readers are familiar with the valuable assistance rendered by the copywriting, resort and travel, and educational information services supplied free of charge by the classified advertising department of *The Sunpapers*.

Well, let's follow the page of type and see what becomes of it.

S T A T I O N "F"

The Stereotyping Department

As you were told in the introduction, before the invention of modern printing machinery all type was set by hand, and newspapers were printed on flat-bed presses direct from the type itself. That would be impossible today.

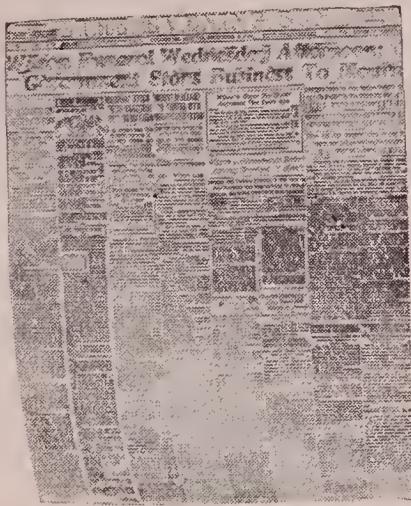
This is a good place to tell you that all the metal used in setting type and casting plates is composed of 81 per cent lead, 13 per cent antimony and 6 per cent tin. The lead is the soft element, allowing it to flow freely under heat; the antimony is the hardening element (and you may have heard of it from its use in Britannia metal and pewter, as a most important alloy) and the tin gives the type that quite essential finish, and cutting edge, needed to produce a clear outline. This metal is heated to between 500 and 600 degrees Fahrenheit. About 10 per cent is lost in handling, and all metal, when once used, is melted and used over again.

At the last two preceding stations you saw the copy set into type and the type placed in chases or forms, on stones or tables. Now, you see the floor-men pull these rolling stones, one after the other, down the room to the roller and steam tables, where a page matrix will be made of each, this matrix to be sent

downstairs to the Autoplate, and there to be used in casting metal plates for the presses.

Retain in your mind that the word "matrix," wherever used, means "form," or "die," and is a master from which any necessary number of casts may be made. The last matrix you saw was a little brass one to make lines of type. The one you are now examining is a full page matrix, not of brass, but of blotter and tissue joined with stereotyper's paste, and about as thick as an average piece of cardboard, and very much like a large blotter in appearance.

"Stereo" is a Greek prefix meaning "fixed," or "solid," and when we speak of stereotyping, we mean making a cast which fixes in solid usable form, the originally movable pieces of types, the lines of type, for instance, composing the page as it is set in the



*Page Matrix of
type, from which
plate is cast.*



*An Historic Page Plate—
"Woodrow Wilson Dead."*

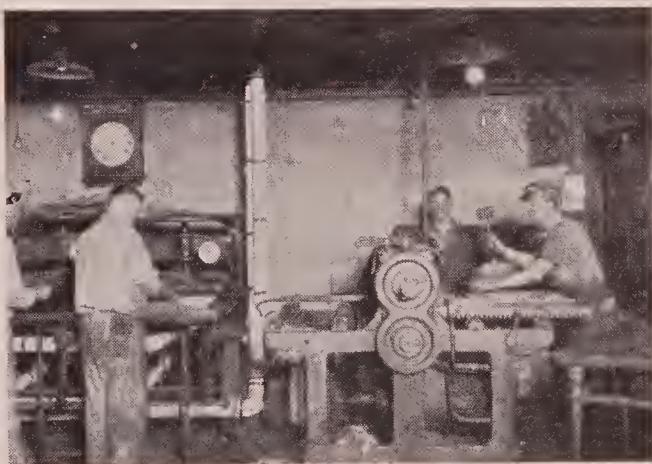
linotype room. It would be impossible to fasten movable pieces to the cylinders of a perfecting press, and so one solid plate is made, and that plate is bolted down to the cylinders to defy all the discouragements of centrifugal force and to do its work as the inventor intended.

The big reason for stereotyping is that as many plates for each page are needed as there are sets of cylinders running on the presses; and from a matrix as many plates can be made as required.

Now, let's go along and see how the stereotyping is done.

Here we are at the steam tables. The form of type is brought down on its rolling table. It is shunted off to a table under a heavy roller. A page matrix (the blotter and tissue just described) is placed over the face of the page of type. A blanket goes on top to equalize pressure. The whole thing is pushed under the roller, and comes out on the other side with

*Rolling the matrices.
The face of the type
is impressed into a
matrix by a machine,
and the matrix is
then made
permanent by
steam heat.*



the face of all the type firmly pressed into the matrix. Now it is taken further down the table to presses, just like the old-fashioned copy press. It is pushed under and the press is screwed tightly down. From 80 to 100 pounds of steam keep the table and press hot. From 3 to 5 minutes is required to finish the impressing and drying of the matrix under the last process, and then it comes out.

Now, the originally smooth matrix is a perfect, or nearly perfect, mold of the type page. Operators examine each matrix carefully for any possible faults, and correct the trouble. Then the matrix is sent through the chute to the Autoplate in the press room, away down in the basement, where plates are to be cast from it.

The form, after a matrix has been made, goes back up the room for changes for a succeeding edition, or if it happens to be the last use for the day, the page is broken up, the type returned to the melting pot, and everything cleared away for the next day's work.

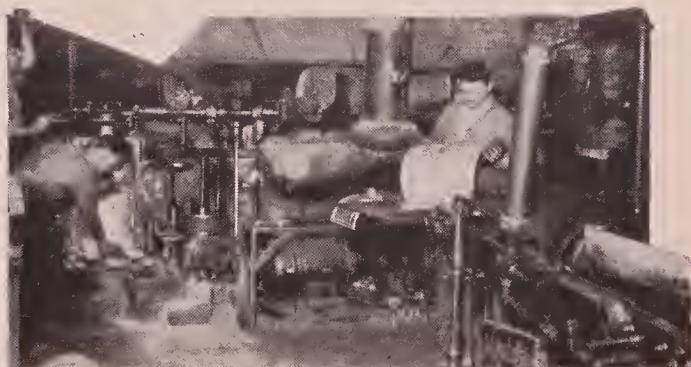
We will now follow the matrix downstairs and see it made into a plate. Remember the metal composition—lead, tin and antimony; and when you come near the melting pot of the Autoplate, remember also the temperature of the metal, between 500 and 600 degrees Fahrenheit. A finger curiously dipped into the melting pot might demonstrate just what 500 to 600

degrees Fahrenheit is, but no visitor has thought it necessary to doubt.

The Autoplate stands at the entrance to the press room in the basement. It is there because it would be impossible to convey metal plates any distance to the presses, and make necessary time. Getting out a newspaper, at the hour of going to press, is always an anxious moment, and seconds will answer problems of catching trains and making scheduled delivery into the homes.

In the Autoplate, you first see the large oval melting pot. On either end, a semi-cylindrical casting box. In front, a separate piece of machinery, the cooling and trimming outfit. Now, watch the matrix that you have followed downstairs from the composing room. It is placed in the casting box, which is closed on it. A lever is pulled, opening a vent and filling the space over the matrix with hot composition metal. In 19 seconds a bell rings, the casting box

The Autoplate in action, casting off stereotyped plates to be affixed to the cylinders of the presses.



opens, the shaft or core against which the plate was cast revolves, and out comes the metal plate. A saw automatically trims off the edges—and stand back, please, or the flying pieces will burn your clothing! Men gloved with leather palm-pieces grab the plates as they come out and place them quickly on the cooling and trimming machine. This machine automatically trims the sides and bottoms of the plates to make them fit the press cylinders evenly, and then passes them down under a spray of water and over brushes that remove the slightest particle of loose metal. After that, floor-men pick them up, rush them to the presses and lock them in place.

Here we are, ready for the starter!

That is the plate of all plates.

It is the last one to come down.

It is the page that fairly screams: “When you get me on, *let her go!*”

It is the thriller of the press room, the page that starts feverish life in the mountains of metal waiting for the urge of electric current. Will we be on the street first with an edition, or will our competitors beat us? It is the starter that answers.

The Press Room

THE Sunpapers have four double sextuple Hoe cylinder presses, or a total of twenty-four presses, and they will each turn out 34,000 average papers in an hour or 136,000 papers an hour in all. There they are, standing like battleships in the long press room, each press weighing a hundred tons. Even with their rapid delivery the presses cannot keep up with the growing circulation of *The Sunpapers*, and the equipment is now being increased.

Whoever invented presses (and that will always be disputed) did something that turned civilization into rich pastures of progress, to graze at will. But to Hoe and his contemporaries the newspaper must give the achievement of perfecting the press, and making it possible to print a newspaper as large, for instance, as *The Sunday Sun*, in quantities sufficient to supply a great and constantly increasing demand. If we had time or space to describe the clumsy efforts of the original press to turn out a paper, the comparison would make you think, and think hard. It would be the comparison of the first automobile with the latest speed-car.

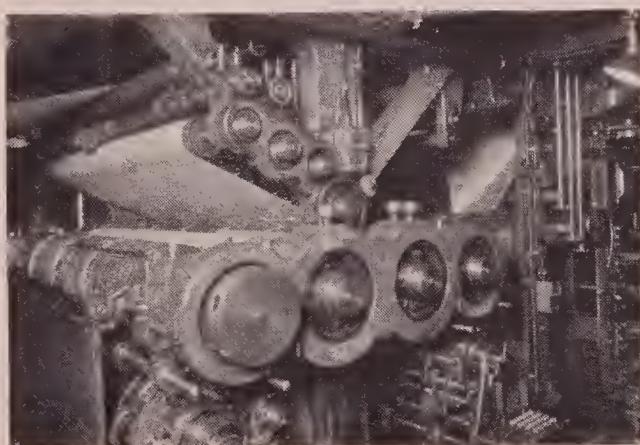
"What town is this?" asked the old-time motorist of yesterday as he passed through.

"What town WAS that?" asks the speeding motorist of today; and there is the difference between the old-time press and the presses used by *The Sun*.

Come down close and look into the heart of the presses. Observe that each section is a complete press in itself, with its own equipment of cylinders to hold the plates that you have just seen cast by the Auto-plate at the entrance of the press room. Now the pressmen bring the plates, which you will remember were cast in a semi-cylindrical form, and lock them securely to the cylinders of the presses.

What we need now is to put ink on the plates and run paper over them.

First, glance at the galleries of the press room, piled high with rolls of paper weighing from 1100 to 1500 pounds each. Then notice the rolls hoisted into position at the ends of the presses. The end of each roll is fed into what is called the web, roughly a suc-



A peep into the interior of the Hoe cylinder press. 2266 newspapers can be turned out in one minute, or about 38 a second.

cession of rollers and cylinders that catch the paper and pull it through the whole press, over and under the form of type. Now, we press an electric button and start the machinery. The cylinders move. As the plate cast from the matrix and locked to the cylinders turns under it comes in contact with rollers covered with ink, this ink being sprayed by a force pump from fountains in the base of the press. Thoroughly inked, the plate is carried back up by the cylinder and comes in contact with the paper, which is held down to the plate by an impression cylinder covered with felt blanket, and under this pressure the page is transferred to paper, and there you are.

As the paper passes through the press it comes down over folding devices, under knives, and out at the end, printed, folded, cut and counted, into an automatic conveyor which carries the complete papers to the mailing room. Every fiftieth paper "kicks out" from the rest as it reaches the conveyor, so that people receiving the papers in the mailing room take them off the conveyor in fifties. Without this automatic device it would be impossible to count papers fast enough to pack and ship them.

That briefly is the story of the presses. The rest of the story is in the thrill and human interest of watching them whirring with a deafening noise, and seeing the alert attendants caring for tension on the paper, that it does not break; making ready a roll to

take place of the one now nearly exhausted ; on the quiete for lightning action that may be required by any emergency.

We shall follow the paper to the mailing room, now that it has been printed. But first, how is the paper circulated?

S T A T I O N "H"

The Circulation Department

WITHOUT circulation a newspaper would be valueless to the community and to the advertiser. No department is more important than the sales department, in any business. To produce is necessary, but to distribute the product is frequently necessary plus. Which reminds us of the time when Eugene Field, then publishing a small newspaper, suddenly burst into bitter tears as he looked out the window at a passing funeral procession.

"What's the matter, 'Gene?'" asked his business partner. "Friend of yours?"

"No," said Field, wiping his eyes and sobbing as though his heart would break, "but a thought came over me—just for a moment I thought it might be our subscriber."

In the city, *The Sunpapers* have their bulk of circulation directly into the homes by exclusive carrier

service. The supplementary distribution by newsboys who sell on the street, and who are organized into districts supervised by agents in automobiles, is so evident to all who walk that it needs no explanation. But *Sun Carrier Service* is peculiar to itself, and it will pay us to take a little peep behind the scenes.

Beginning with the statement that the city circulation of *The Sunpapers* is essentially by home delivery you will be interested in knowing how it is done. In the first place, the city and immediate suburbs are divided into groups of blocks, and each group is a Carrier Route. There are 112 such routes, covering every nook and corner of Baltimore and environs. Each route is managed by a Carrier who employs his own help, buys his papers at the Carrier rate and serves them at the advertised rate, and who has invested money for the privilege and is therefore sure to do everything he can to please his customers and

*The only thing of
its kind in the
world.
A modern filing
device housing the
names and
addresses of the
Sunpaper
subscribers,
corrected weekly.*



increase the number of them. The privilege is at all times in control of *The Sun* and is guarded jealously, for the slogan of the Circulation Department is: "Sun

Carrier Service Must Be Absolute Service."



The Sunpapers go Home by happen, the complaints Exclusive Carrier Service. averaged only three a day!

The carrier, whenever there is a complaint, receives immediate notice and gives the investigation and correction his personal attention.

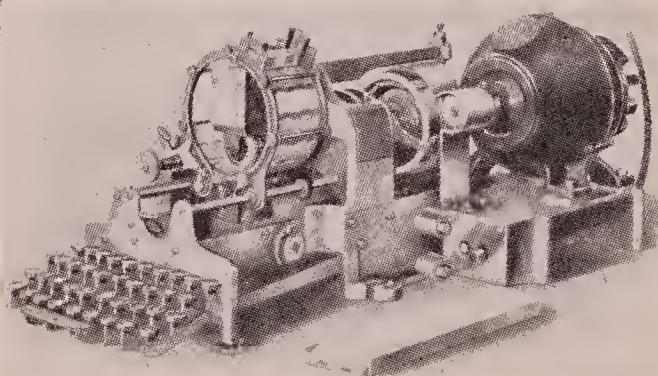
The Sun Carrier is not a boy. He is a grown man, with money invested in a going enterprise, and to it he gives his entire attention. He handles *The Sunpapers* exclusively, does practically all of his own collecting and comes in contact with his customers personally instead of by agents. The carriers have an organization—The Sun Route Owners' Association

—which meets at stated intervals for consideration of their mutual interests. They are represented by a Carrier Council of Seven, which confers as occasion requires with circulation executives. An annual banquet is a feature of their social interest, and it is always an affair of note.

Considering the small price of an individual newspaper, it might be interesting to you to know that on the basis of actual money invested, the privilege of distributing *The Sunpapers* into the homes would capitalize well into the hundreds of thousands of dollars. With such a system, directly responsible to the publishing concern for its results, it is no wonder that *The Sunpapers* can and do go into the homes not only in large numbers, but regularly and with very little complaint.

Circulating the papers in the country generally is a matter of transportation, chiefly; but frequently train schedules are deranged, blizzards tie up traffic,

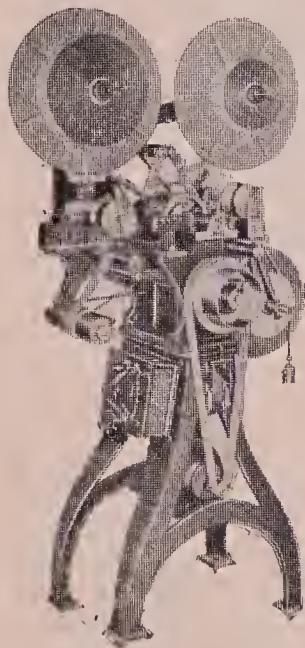
Reliefograph, which makes name plates for the Dick mailer.



and things happen that keep the out-of-town force working overtime. Changes in addresses, expirations, renewals, starting and stopping temporary orders during vacation season—these things are the details that have to be watched constantly.

Until about five years before the time of this writing, names and addresses of mail subscribers, out-of-town dealers, carriers and news agents in the city were set in type and kept on trays or galleys. From

these, proofs were pulled, and these proofs sent to the mailing room, where they were put into a device known as the Dick mailer—a hand machine that cuts and pastes labels from the proof or “strip” onto the wrappers.



*Electric proofer,
which prints
name plates on
paper strips to
fit the
Dick mailer.*

This accumulation of type amounted to between three and four tons, which was not only a great weight on the floor, but which had to be picked up and handled every time a proof was pulled. Today, with the Pollard - Alling mailing system, the same work is done cleanly with a total weight of only 336 pounds against the several tons of type handled under the old system. And there is a proportionate saving of working space, which

in these days of adapting expansion to limited room is of first importance.

There are two machines in the mailing system: The reliefograph, which makes name plates, and the electric proofer, which prints them off on strips to fit the Dick mailers. The first machine is operated by young ladies, with a simple keyboard, and they can punch four lines each into the name plates of aluminum at the rate of 250 an hour. These name plates are so made that they can be swiftly, with one deft movement, linked together in a continuous chain. This chain, or reel, is then put on the electric proofer, which will ink the plates and run them over proof paper at the rate of 30,000 name plate impressions an hour.

Operators work almost continuously correcting these reels by pulling out "dead" plates and substituting "live" ones, to keep up with changes on the mailing list which come from the desk of the Country Circulator as they are received from individual subscribers and agents.

You who have been through the plant take circulation for granted. Of course *The Sunpapers* circulate. Otherwise they would not exist. But you want to see them actually go out? Very well, let's visit the mailing room.

S T A T I O N "I"

The Mailing Room

HERE is not time to linger in the mailing room. It is not a place where lingering is in the atmosphere. Long before the presses are ready to deliver, the men at the tables have run off their wrapping sheets—the individual wrappers, the club wrappers, dealers, stores, boys, carriers. Daily corrections are made in the number of papers for each wrap, and this has all to be done in advance.

Outside the grilled partition, newsboys are gathering. And a remarkable fact about boys is that twenty of them can pile into space intended by Nature for six, without the least apparent discomfort. They hear the bell ring. They have bought their tickets. The papers are coming up, and with a rush they cover whatever small spaces there may be between them and mash each other to jelly in the line which is not a line, but a mass—a heterogeneous conglomerate of America in the raw.

Backed up against the curb on Charles street are huge trucks to take packs to carriers, to trains, to steamer landings, to wholesale stores. With them, a battery of smaller motors and light trucks used in the distribution of papers to newsboys in all parts of the city. We are speaking now, of course, of *The Evening*

Sun. There is not so great a rush in the morning, because the town is not so much alive when the paper comes out then.

With the first paper up from the press room on the conveyor, a babel of yells starts with the newsboys waiting at the window. Eager hands are thrust through the opening up to the shoulders. A mad scramble to push one place forward in the "line" starts, and continues until the last boy has been supplied. And as fast as they get their papers the youngsters are in the street full tilt, reckless of collision and as spirited as the hottest contestants in a football game. With the first boy's cry the street is alive. Hands go into pockets in all directions, the racing salesmen stopping just long enough to pick up customers on their way to their favorite corners or stands.

Meantime, the mailing room helpers have started wrapping, and fast light trucks speed away for the first trains that must be caught. Supervisors who

*A corner of the
Mailing Room
showing where
papers are wrapped
and dispatched to
distribution points
and to carriers.*



have charge of newsboy districts hustle their bundles to their cars and are away, and as fast as fifties can be picked up from the tables and wrapped and tied, carrier bundles are hurried to the sidewalk, there assorted by the dispatcher, and loaded into the waiting trucks. Each truck, as its route is completed, takes the right-of-way through traffic and goes about the most important business a truck has—getting the latest possible paper to the carrier at the earliest possible moment. Almost without stopping, the carrier trucks toss bundles off at designated corners, where sub-carriers pounce on them eagerly, and then begins the systematic, thoroughly organized distribution into the homes of the great city field.

Upstairs in the editorial room, while the mailing room is clearing the newspapers, some important story may be running. Something new may break. Five minutes after going to press there may be an



A glimpse of the Sun's battery of automobiles and automobile trucks hauling newspapers away for carrier distribution and mailing.

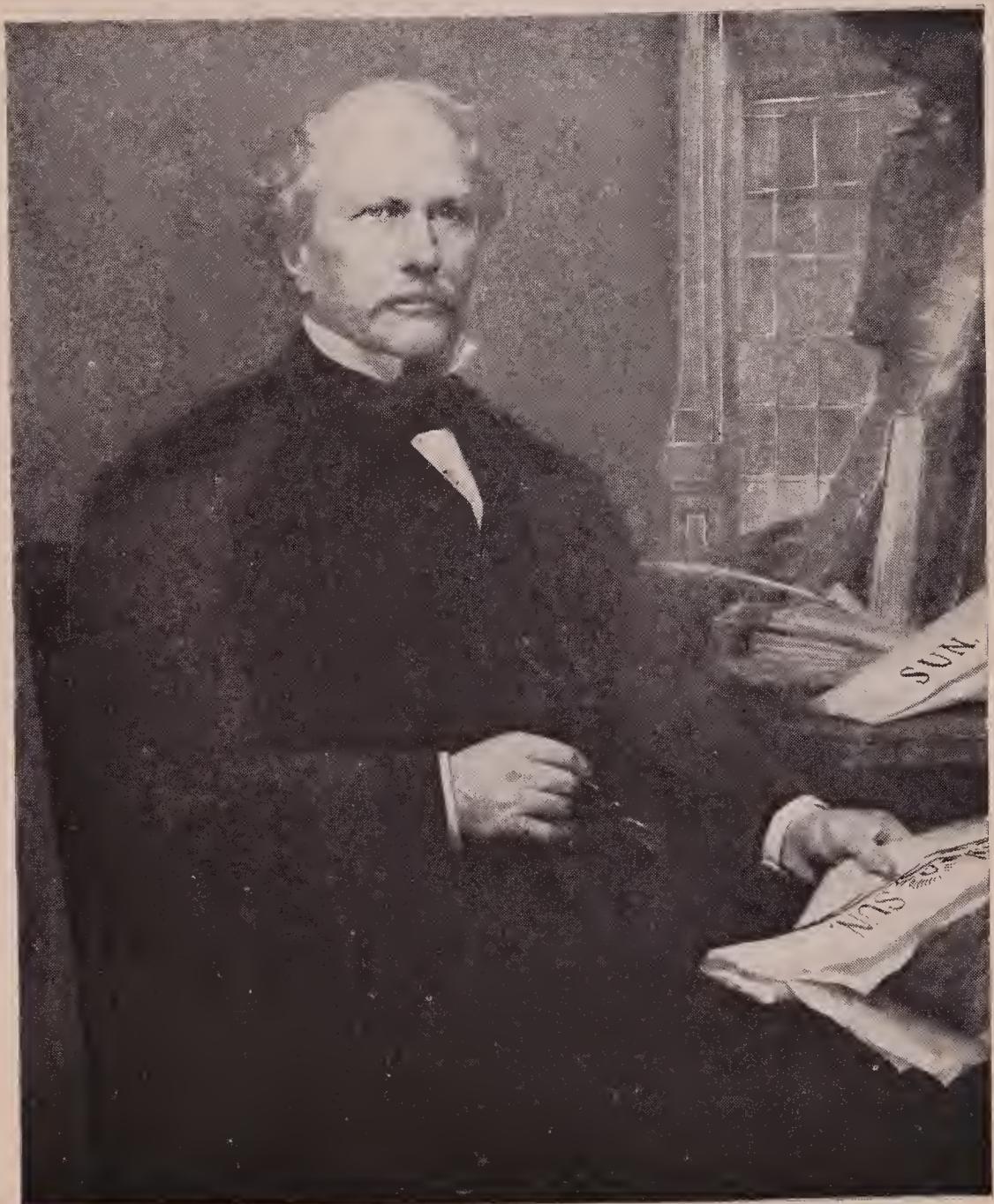
important development. Instantly the mechanical departments are notified:

“Get ready for a make-over!”

The changes are made in the form of type, new matrices are sent down and new plates cast, and in the midst of the “run” the presses are stopped for a moment, the old plates are taken off, the new ones put on, and away they go again, always striving to get into the earliest possible edition the latest possible fact of importance in the day’s news.

It is always like that, and all through the plant the same. Perhaps you have heretofore thought of a newspaper as two cents’ worth of reading matter; or in combination delivered to your home, you regard it as “Thirteen *Sunpapers* for 25 cents a week.” But when you have gone through the plant, after you have read this story of a little journey, you get a new slant. Then perhaps, you understand that the newspaper is not a mere printed sheet: it is an institution.

Goodbye! Come Again!



1806—ARUNAH SHEPERDSON ABELL—1888
FOUNDER OF THE BALTIMORE SUN

The Beginning of The Sunpaper

From Ponies and Pigeons to Telegraph

IN this second edition it is fitting to include a brief reference to the genesis of The Sunpaper, in view of its valuable contribution to the development of international news gathering and the organization of newspaper enterprise.

Arunah Sheperdson Abell was a New England printer, who served his apprenticeship in the office of the Providence *Patriot*. After serving his time he went by stagecoach to Boston, where he worked, and afterward to New York, where he met William M. Swain and Azariah H. Simmons, both practical printers, who were destined to become his partners.

On February 20th, 1836, these three men signed papers which established the Philadelphia *Public Ledger*. Then Mr. Abell came to Baltimore and, in spite of contrary advice, persuaded his partners that there was room in this city for a penny newspaper against the six-penny journals then being published. So on May 17th, 1837, The Sun was established as a four-page paper of four columns, each page being about half the size of the present Sunpaper. At that time Baltimore was an unpaved village of 85,000 population and 15,000 homes.

Because it was strictly a newspaper for the gathering of news, The Sun's circulation grew immediately to what was then an enormous figure. Business expanded so that in 1851 The Sun moved into its own building, which was the first iron building constructed anywhere in the world, and which stood until it was destroyed in the fire of 1904.

It is not necessary to go into the historical detail by which The Sun fell exclusively into Mr. Abell's hands in 1864. The purpose of this sketch is rather to show the part of The Sun

in the development of newsgathering organization. In December, 1838, Mr. Abell brought the President's message from Washington by swift pony express. He had waiting forty-nine printers who began setting type immediately, and in two hours The Sun was on the street, beating all the newspapers in the country by two days.

Mr. Abell then established a pony express between Boston and Baltimore, a distance of 400 miles, to bring foreign news and news of the northern port to The Sun. In those days all foreign news came in by way of Boston. The Sun's enterprise in establishing this overland service forced the New York papers in 1844 to adopt the same method. Express news service by steamboat and train was established to connect with the ponies, and finally The Sun joined a movement to charter a pilot boat which ran to Liverpool and gathered foreign news for this country.

When the Mexican War attracted the attention to the South in 1846, The Sun established an exclusive overland express of "sixty blooded horses," which ran between Baltimore and New Orleans, and in spite of protest by the Postoffice Department, developed a mail service that beat the Great Southern Mail by thirty hours. It required six days to cover the distance, at a cost of \$1,000 a month. This grew into the organization on November 29th, 1847, of the Southern Daily Pony Express.

Up to this time horses had been taking the place now occupied by telegraph, cable and radio. At about the same time The Sun trained 500 carrier pigeons to fly with news between New York, Philadelphia, Baltimore and Washington, and these pigeons were continued in active service until the telegraph system reached practical development.

It is not surprising that a newspaper so actively interested in developing rapid communication should be found enthusiastically backing the next step forward. In 1837 Samuel F. B. Morse, of Baltimore, attempted to get a bill through Congress, enabling the establishment of his magnetic telegraph line between Baltimore and Washington. The bill was left in committee until in 1842, five years later, The Sun became interested,

backed Professor Morse, and rendered valuable service in influencing the passage of the bill, which appropriated \$30,000. The telegraph line was compelled May 24th, 1844, and The Sun used it regularly in order to encourage the enterprise. On May 11th, 1846, a Presidential message was sent over it exclusively to The Sun, and this incident led to the establishment of the telegraph system in France. Mr. Abell and his associates then joined interest with Professor Morse, and The Sun and the Public Ledger and their friends financed a line to Philadelphia, which was opened April 21st, 1846.

It is not the purpose of this sketch to follow The Sun through any of its later activities. It is sufficient to call attention to its contribution to newspaper development at a time when journalism in any stage was a most difficult undertaking. The Sun was the first newspaper to use rotary presses, without which a modern newspaper could not be published at all. It was the first to use electricity for lighting purposes, and it was the first in its field to use an aeroplane in gathering news.

And so far as the writer of this knows, it is the first to give its friends, in connected form, such a peep behind the scenes as this description of "The Making of a Newspaper."

M E M O R A N D A

M E M O R A N D A

